

a plurality of pixels, said generating devices respectively using search ranges different from each other and search accuracies different from each other; and

a selecting device for selecting one of movement vectors generated by said generating devices, in accordance with characteristics of the image in said each pixel block, and then outputting the selected movement vector corresponding to said each pixel block,

wherein said generating devices comprise:

a first generator for generating a first movement vector, with a preset first range as the search range; and

a second generator for generating a second movement vector at the search accuracy lower than that of the first movement vector, with a preset second range wider than the first range as the search range, and

wherein said selecting device comprises:

a first adding device for adding together absolute values of differences between respective one of the pixels in the pixel block and its corresponding pixel in the frame targeted by the movement compensation, as for all of the pixels in the pixel block, in said first generating device, to generate a first absolute value sum;

a second adding device for adding together absolute values of differences between respective one of the pixels in the pixel block and its corresponding pixel in the frame targeted by the movement compensation, as for all of the pixels in the pixel block, in said second generating device, to generate a second absolute value sum; and

a standardizing device for standardizing the generated first and second absolute value sums, respectively,

said selecting device comparing the standardized first absolute value sum with the standardized second absolute value sum, outputting the first movement vector as the selected movement vector if a difference between the standardized first absolute value sum and the standardized second absolute value sum is not greater than a predetermined threshold which is set in advance to detect a difference between the first movement vector and the second movement vector at a high accuracy, and outputting the second movement vector as the selected movement vector if the difference between the standardized first absolute value sum and the standardized second absolute value sum is greater than the predetermined threshold.

12. (Amended) A movement vector generating method of generating a movement vector for a movement compensation by means of an inter-frame prediction, when encoding a preset image information including an image of a plurality of frames by using the movement compensation, said method comprising:

a plurality of generating processes each for generating the movement vector corresponding to a search range and a search accuracy between one frame and another frame, for each pixel block which is located within said one frame respectively in the image information and includes a plurality of pixels, said generating processes respectively using search ranges different from each other and search accuracies different from each other; and

A2 a selecting process of selecting one of movement vectors generated by the generating processes, in accordance with characteristics of the image in said each pixel block, and then outputting the selected movement vector corresponding to said each pixel block,

wherein said generating processes comprise:

a first generating process of generating a first movement vector, with a preset first range as the search range; and

a second generating process of generating a second movement vector at the search accuracy lower than that of the first movement vector, with a preset second range wider than the first range as the search range, and

wherein said selecting process comprises:

a first adding process of adding together absolute values of differences between respective one of the pixels in the pixel block and its corresponding pixel in the frame targeted by the movement compensation, as for all of the pixels in the pixel block, in said first generating device, to generate a first absolute value sum;

a second adding process of adding together absolute values of differences between respective one of the pixels in the pixel block and its corresponding pixel in the frame targeted by the movement compensation, as for all of the pixels in the pixel block, in said second generating device, to generate a second absolute value sum; and

a standardizing process of standardizing the generated first and second absolute value sums, respectively,

said selecting process comparing the standardized first absolute value sum with the standardized second absolute value sum, outputting the first movement vector as the selected

movement vector if a difference between the standardized first absolute value sum and the standardized second absolute value sum is not greater than a predetermined threshold which is set in advance to detect a difference between the first movement vector and the second movement vector at a high accuracy, and outputting the second movement vector as the selected movement vector if the difference between the standardized first absolute value sum and the standardized second absolute value sum is greater than the predetermined threshold.

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Please add the following new claims 15-24:

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--15. A movement vector generating apparatus for an image encoding system, comprising:

two or more vector generators each of which generates a movement vector indicative of movement of a pixel block from one frame to another, the vector generators having different search ranges and accuracies; and

a selecting device for selecting, based on image characteristics of the pixel block, one of the movement vectors generated by the vector generators for use in a movement compensating process of the image encoding system.

A3 16. A movement vector generating apparatus according to Claim 15, wherein the selecting device comprises a comparator for comparing the search range of one of the vector generators and the length of the movement vector generated by another one of the vector generators in order to select one of the movement vectors.

17. A movement vector generating apparatus according to Claim 15, wherein the selecting device comprises a comparator for comparing a sum of absolute values of pixel differences calculated by one of the vector generators with a sum of absolute values of pixel differences calculated by another one of the vector generators in order to select one of the movement vectors.

18. A movement vector generating apparatus according to Claim 15, wherein the selecting device comprises a comparator for comparing the movement vectors generated by the

vector generators with a pre-generated movement vector in order to select one of the movement vectors.

19. A movement vector generating apparatus according to Claim 15, comprising three or more vector generators.

20. A movement vector generating process for an image encoding system, comprising:

two or more vector generating processes each of which generates a movement vector indicative of movement of a pixel block from one frame to another, the vector generating processes having different search ranges and accuracies; and

a selecting process for selecting, based on image characteristics of the pixel block, one of the movement vectors generated by the vector generators for use in a movement compensating process of the image encoding system.

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21. A movement vector generating process according to Claim 20, wherein the selecting process compares the search range of one of the vector generating processes and the length of the movement vector generated by another one of the vector generating processes in order to select one of the movement vectors.

22. A movement vector generating process according to Claim 20, wherein the selecting process compares a sum of absolute values of pixel differences calculated by one of the vector generating processes with a sum of absolute values of pixel differences calculated by another one of the vector generating processes in order to select one of the movement vectors.

23. A movement vector generating process according to Claim 20, wherein the selecting process compares the movement vectors generated by the vector generating processes with a pre-generated movement vector in order to select one of the movement vectors.

24. A movement vector generating process according to Claim 20, comprising three or more vector generating processes.--